

## **Odors from the BP Oil Spill**

### **June 1, 2010**

Residents of the Gulf Coast are concerned about odors from the BP oil spill and whether they are harmful to breathe. Some residents along the coast report smelling odors, and experiencing eye, nose, or throat irritation, nausea, or headaches.

EPA and CDC are concerned about the odors and any health effects from the pollutants causing the odors. We have been particularly concerned about pollutants that could reach shore from the burning of oil and pollutants that may evaporate from the spill as it spreads closer to shore, potentially affecting residents along the shoreline.

Since late April, EPA has been monitoring the air at multiple sites along the Gulf Coast for certain pollutants that are associated with petroleum products and from the burning oil out at sea. EPA's air monitoring to date, has found that air quality levels for ozone and particulates are normal on the Gulf coastline for this time of year and odor-causing pollutants associated with petroleum products are being found at low levels. This report summarizes the information that is available at this time. We are continuing to work to increase our information base.

The Centers for Disease Control and Prevention (CDC) has reviewed the results of EPA's sampling efforts and used data on the likely short term and long term health effects associated with these chemicals to determine whether pollutants in the air would be expected to cause health problems. The levels of some of the pollutants that have been reported to date may cause temporary eye, nose, or throat irritation, nausea, or headaches, but are not thought to be high enough to cause long-term harm. These effects should go away when levels levels go down or when a person leaves the area. The low levels that have been found are not expected to cause long term harm. We will continue to monitor the air and if we begin to detect levels that are higher we will provide updates to the public. For up-to-date information on air quality and monitoring data along the Gulf Coast, please see <http://www.epa.gov/bpspill/air.html>.

What can people do if they smell odors related to the spill?

- In general people should limit exposure to the spill and related odors as much as possible. For example, to the extent possible, close windows and doors, turn your air conditioner on and set to a recirculation mode. If you are experiencing severe incidents of nausea or other medical issues, please seek medical care as soon as possible.

Some of the odors and chemicals that are being identified in the area are as follows:

- “Rotten Egg” Odor
  - If you smell a “rotten egg” odor, you may be smelling hydrogen sulfide (H<sub>2</sub>S).

- The levels of H<sub>2</sub>S that have been reported to date may cause irritation, but as stated above, these effects should go away when H<sub>2</sub>S levels go down, or when a person leaves the area.
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- While, H<sub>2</sub>S is associated with oil and natural gas extraction, it also comes from marshes and sewage treatment plants. Because H<sub>2</sub>S has only been seen at individual monitors on an infrequent basis, this indicates the H<sub>2</sub>S is more likely from a local source near the monitor rather than from the oil spill. We do not know the exact source of H<sub>2</sub>S in these areas.
- “Gas Station-Like” Odor
  - If you smell a ‘gas station’ like odor – the odor you might smell while filling up your car – it may be volatile organic compounds, or VOCs.
  - The key toxic VOCs in most oils are benzene, toluene, ethylbenzene, and xylene.
  - Exposure to low levels of VOCs may cause temporary irritation of the eyes, nose, throat, and skin. It is possible that people with asthma may be more sensitive to the effect of inhaled VOCs. The VOC smell may give you a headache or upset stomach but is not expected to cause long term health effects. If you are sensitive to VOCs, you should stay indoors to limit your exposure, close windows and doors, and set your air conditioner to a recirculation mode. The smell may become stronger if the wind or weather change.
  - Historical data on oil spills indicate that VOCs are likely to evaporate, disperse and/or react quickly after the oil reaches the surface of the water.
  - Currently, we are measuring very low levels of VOCs. We will continue to monitor the air and if we begin to detect VOC levels that may be harmful will provide updates to the public. For up-to-date information on air quality and monitoring data along the Gulf Coast, please see <http://www.epa.gov/bpspill/air.html>.
- “Asphalt” or “Tar-Like” smell
  - There are chemicals remaining in the weathered oil known as semi-volatile organic compounds (or SVOCs) and asphaltenes, and these could be responsible for “asphalt- or tar-like” odors.
  - EPA is monitoring for SVOCs onshore to quantify the amounts of SVOCs in the air to determine if any might be present at unsafe levels. These data are posted here ([insert link to SVOC data](#))
- As we get information about specific SVOCs, we will provide additional information about potential health concerns related to these compounds.